

ABSTRACT

A semiconductor isolation structure. The semiconductor isolation structure includes a substrate. A first device and a second device are formed within the substrate. An isolation region is formed within the substrate between the first device and the second device. The isolation region includes a deep region which extends into the substrate. The deep region includes a deep region cross-sectional area. A shallow region extends to the surface of the substrate. The shallow region includes a shallow region cross-sectional area. The deep region cross-sectional area is greater than the shallow region cross-sectional area. For an alternate embodiment, the deep region includes an oxide and the shallow region includes a protective wall. The protective wall can be formed from an oxide and a nitride.